

**REMARKS**

This response is intended as a full and complete response to the Final Office Action dated September 27, 2006. In view of the following amendment and discussion, the Applicants believe that all claims are in allowable form.

**CLAIM REJECTIONS**

**35 U.S.C. §102      Claims 1-4 and 21**

Claims 1-4 and 21 stand rejected as being unpatentable over United States Patent No. 5,273,588 issued December 28, 1993 to *Foster*, (hereinafter *Foster*). In response, the Applicants have amended independent claims 1 and 21 to more clearly recite certain aspects of the invention. The amendment to claim 21 was suggested by the Examiner in the interview of November 10, 2006 with Keith Taboada. The amendment to claim 1 was discussed with the Examiner in the interview of November 10, 2006, noting that claim 1, prior to the amendment, recites all the limitations of claim 21, and that the amended element of claim 1 has been made to follow the amendment made to the similar element of claim 21.

Independent claims 1 and 21 recite elements not taught or suggested by *Foster*. *Foster* teaches a seal 54 positioned below the housing 26 of the reactor that seals a shaft 50 to the housing. A sleeve 93 is disposed partially in the housing and adjacent to the shaft. A plurality of passages 122, 123, 125 formed in the sleeve 93 allow nitrogen gas to flow between the shaft and the sleeve. As discussed during the November 10 interview with the Examiner, the sleeve does not contact or seal with the shaft.

Therefore, *Foster* does not teach or suggest a substantially annular guard ring positioned within the step, the guard ring having a portion that slopes radially inward and upwards into sealing contact with the shaft, as recited by claim 1; or a substantially annular guard ring disposed in an aperture, the guard ring having a portion that slopes inward and upward into contact with a shaft to form a seal between the shaft and the bottom of the chamber, as recited by claim 21.

"Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim." *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1984)(citing *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983). Here, as *Foster* does not teach or suggest each and every element recited by independent claim 1 and 21, a *prima facie* case of anticipation is not established.

Thus, the Applicants submit that independent claims 1 and 21, and all claims depending therefrom, are patentable over *Foster*. Accordingly, the Applicants respectfully request the rejection be withdrawn.

**35 U.S.C. §103(a)            Claim 5**

Claim 5 stands rejected as being unpatentable over *Foster* in view of United States Patent No. 6,221,221 issued April 24, 2001 to *Al-Shaikh, et al.* (hereinafter *Al-Shaikh*). In response, the Applicants have amended claim 1 to more clearly recite certain aspects of the invention.

Independent claim 1 recites elements not taught or suggested by the combination of *Foster* and *Al-Shaikh*. The teaching of *Foster* has been discussed above. *Al-Shaikh* teaches the use of bellows 238 to prevent leakage through the chamber bottom around a shaft. As such, *Al-Shaikh* fails to teach or suggest a modification to *Foster* that would yield a substantially annular guard ring positioned within the step, the guard ring having a portion that slopes radially inward and upwards into sealing contact with the shaft, as recited by claim 1. Thus, a *prima facie* case of obviousness can not be established as the combination of references fails to teach every claimed element.

Thus, the Applicants submit that claim 5, which depends from claim 1, is patentable over the combination of *Foster* and *Al-Shaikh*. Accordingly, the Applicants respectfully request the rejection be withdrawn.

**35 U.S.C. §103(a)                      Claims 6-7**

Claims 6-7 stand rejected as being unpatentable over *Foster* in view of *Al-Shaikh* as applied to Claim 3 and further in view of United States Patent No. 5,938,343 issued August 17, 1999 to *Grantz, et al.* (hereinafter *Grantz*). In response, the Applicants have amended claim 1 to more clearly recite certain aspects of the invention.

Independent claim 1 recites elements not taught or suggested by the combination of *Foster*, *Al-Shaikh*, and *Grantz*. The teachings of *Foster* and *Al-Shaikh* have been discussed above. *Grantz* teaches a rotating shaft having a wedge shaped seal. As such, *Grantz* fails to teach or suggest a modification to the seals of *Foster* and *Al-Shaikh* that would yield a substantially annular guard ring positioned within the step, the guard ring having a portion that slopes radially inward and upwards into sealing contact with the shaft, as recited by claim 1. Thus, a *prima facie* case of obviousness can not be established as the combination of references fails to teach every claimed element.

Thus, the Applicants submit that claims 6-7, which depend from claim 1, are patentable over the combination of *Foster*, *Al-Shaikh* and *Grantz*. Accordingly, the Applicants respectfully request the rejection be withdrawn.


**CONCLUSION**

Thus, for at least the reasons discussed above, the Applicants submit that all claims now pending are in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issuance are earnestly solicited.

If, however, the Examiner believes that any unresolved issues still exist, it is requested that the Examiner telephone Mr. Keith Taboada at (732) 530-9404 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,

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